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[Vol. XXII.—No. 13.]

ORIGINAL DEPARTMENT.

LECTURES.

LIGHT AND VISION—MORE ES- PECIALLY HOW LIGHT IS CON- VERTED INTO THOUGHT.

*Being one of the Cooper Union Lectures for the Advancement
of Science and Art, delivered in the Great Hall of the Cooper
Institute, in New York, on the 26th of February, 1870.]*

By H. KNAFF, M. D.,

Surgeon-in-Charge of the New York Ophthalmic and
Aural Institute, lately Professor in the University
of Heidelberg, Member of the Medical
Society of the County of New
York, etc., etc.

[CONTINUED.]

We have now two things to consider more
closely: first, in which way the rays of light
pass through the eye, and secondly, what be-
comes of them after their arrival at the retina.

The capsule of the eye has a beautiful trans-
parent window, the cornea, for the entrance
of the rays of light. Its anterior surface is the
most important of the whole refractive appa-
ratus. It was, therefore considered of high
scientific interest to determine its physical pro-
perties, above all, its curvature. At first the
method was very imperfect. Two hundred
years ago, a French physician of great renown,
S. L. Petit, endeavored to ascertain the curva-
ture of the cornea by applying to frozen eyes
taken from the cadaver, pieces of card board
into which he had cut circular notches, fitting
them upon the cornea as nearly as possible.
This procedure could give only an approximate
measurement.

In a similar way the curvature, thickness, and
position of the crystalline lens, the second part
of the refracting apparatus was examined.

But the minute parts, with their delicate

structure, appeared so infinitely beyond the
scope of the imperfect methods of investiga-
tion, that a great many properties of the eye,
requisite for discharge of its functions as an
optical apparatus, had to be supplied by hy-
pothesis, that is, imagination.

The less instructed a man, the more he is
given to admiration and superstition. Is it
astonishing, therefore, that the eye was sup-
posed to be the most perfect optical apparatus
quite beyond the reach of our comprehension?
God being the Creator, how can it be possible
that there are short-comings and defects in one
of its most wonderful works?

For a long time all investigators were con-
vinced, *a priori*, that an analytical study of
the eye could only reveal its perfection. This
preconceived idea, however, was forced at last
to give way to the unambiguous results of
exact methods of inquiry.

As every new truth, overturning an old pre-
judice, carries with itself the remedy for the
prejudice, so the optical defects of the eye
were detected, and no religious feeling was
wounded.

If, on earth, there be a power, it is the pro-
gress of science. Religion, the search of the
human soul after the divine, pursues the
sublimest object; but has always had too
many egotistic exponents, who led the mul-
titude astray; threw the noblest minds into
prison; employed torture machines, and all the
horrors of the Inquisition, only to gratify the
sway of their own hierarchy. The history of
science has no such horrors to record; all its
conquests have been ennobling steps of civili-
zation.

In our day, a scientist, arriving at a conclu-
sion at variance with orthodox creed, can no
longer be tortured or imprisoned, or burned
as a heretic, but in most countries, this one

included, he may incur persecution, not by law, but by the zealots of society. Germany at the present time, is the country where the greatest religious liberty exists. No scientist, by declaring openly his dissension on certain points of dogmatic christianity, or orthodox judaism, will lose a minimum of his social position. Therefore, pure and independent science now flourishes more in Germany than in any other country of the world.

The progress of our knowledge of the healthy and diseased eye, during the last decades, is nearly exclusively the work of German genius and labor. Holland, a sister country, having one prominent investigator.

The greatest name in natural science, of the present age, is that of Helmholtz, Professor in the University of Heidelberg. His discoveries and inventions count by the dozen. For the study of the eye, he is the originator of a new epoch. Relating to the point under consideration, I here show you an instrument devised by him, on the principle of the heliometer of astronomers, wherewith the curvature of the cornea can be determined on the living eye with wonderful accuracy. By his researches, and those of other observers, a great many irregularities of the eye have been detected, demonstrating beyond doubt its imperfections as an optical instrument. The curved surfaces of the cornea and crystalline lens are far from being perfect in form, they are, even in the best eye, unsymmetrical, the system is not central, not achromatic, nor aplanatic either; all of which are shortcomings a good optician now-a-days knows how to avoid. You say, be that as it may, the eye is nevertheless an admirable instrument, adequate to all the purposes of human life, and more is not needed. This seems, at first glance, very plausible, but we must consider that the purposes of life are suited to, and governed by, the power of the organs of our body. And this power is limited. If we could fly, we would need no railroads; if our eyesight were more acute, another kind of writing would exist, and you may be sure, to cite an example, that the *N. Y. Herald* would be printed still worse. As it is, its type is just on the verge of visual acuteness, perhaps a little beyond it, to be read for any length of time without injuring the eyes, and therefore it deserves a premium from oculists.

The irregularities of the dioptric apparatus of the eye have one effect common to them all;

they prevent the rays of light from being regularly refracted. Were the eye a perfect optical apparatus, all the rays emanating from one luminous point would be united in one point again on the retina. But this does not take place even in the best constructed eye.

The most conspicuous imperfection of the normal eye is its *want of symmetry*. The meridians differ in curvature, and, therefore, in refractive power.

This is the cause that the pencil of refracted rays has a peculiar shape, being what mathematicians call a skew surface, for instance like a winding staircase. I have represented the peculiar shape of the way the rays of light take within the eye by a model of silk threads. It will interest you, furnishing a tangible illustration how far exact science, guided by mathematics, may penetrate the mysteries of nature.

At the first dawn of science, the investigator is overpowered by the discovery of a general law, which he then represents by a diagram. So it is with the eye. The law of refraction was found, and the eye called a living camera-obscura of unimpeachable perfection and diagrammatic regularity. Astronomers having found the general law of gravitation, immediately had a diagrammatic system of the world built up. This undoubtedly was correct, but then came the perturbations in the orbits of the celestial bodies, which had to be accounted for, and they were accounted for by the progress of astronomical research. The same development took place in the science of the eye. There were disturbances of vision, unexplainable as long as the organ of sight was supposed to be perfect. The onward march of science found means to discover the causes of these disturbances and instruments to measure them to one-thousandth of an inch. Some years ago, while experimenting on these subjects, I told a celebrated mathematician, that we are now able, not only to recognize, but also to measure the irregularities of the eye. He, as many wise men, had always been a great sceptic with regard to the true scientific character of medicine, but could appreciate so fully the value of these investigations, that he exclaimed: "Then, sir, you command all conditions to introduce astronomical accuracy into your researches."

Many persons who like to hear themselves called practical people, but who in reality are only slow thinkers, do not like pure scientific questions, the noblest that can ever be dis-

caused. These would-be practical persons ask what is the advantage of such obscure investigations? People had better devote their time, they say, to more useful pursuits than to scrutinizing the imperfections of nature. I answer these practical people, that the discovery of every truth, of what kind soever it may be, is the most useful fruit of human labor. This subject we have just been considering, proves this conclusively. You can easily imagine, that if all eyes have irregularities, some will have them exaggerated to such a degree as to diminish the power of sight. Such eyes are weak, and not capable of performing the duties our present state of civilization demands of them. The educated of to-day, however, know not only how to discover the optical irregularities which cause weakness of sight, but to determine their nature and degree with such nicety, as to give the practical optician directions, in what manner he has to grind a new kind of spectacles—I mean cylindrical, by the aid of which thousands of weak eyes are now enabled to do any fine work, as well and as long as perfect eyes. I think this is a splendid reward to the scientist who invented the instrument by which we are able to measure the irregularities of the eye.

We have now accompanied the rays of light into the eye, but I have not yet mentioned that wonderful opening of the deepest black color in the middle of the iris, I mean the *pupil*. Through this inlet, all the rays of light must pass before they reach the retina. How is it that this ray of light is so black?

This question, again seemingly impractical, was much discussed some 30 years ago in German Universities, and resulted in one of the most brilliant and beneficial discoveries of modern science. The first impulse to these investigations was given by a sad and criminal deed, in a country town of the Kingdom of Saxony, by a clergyman in discord with one of his parishioners. One dark night the minister on his way home, was attacked and severely beaten. Being convinced that the perpetrator was no other than the man with whom he was at enmity, he entered a complaint against him, but the judge objected that self-testimony and moral conviction although they might do very well in religious matters, could not be taken as evidence in courts of law. Whereupon the priest, who was well versed in legendary and scientific lore, replied: "During the affray I received a severe blow upon the eye which

caused a brilliant light to flash out of it, so that I could recognize the features of the assailant, who was the man I accuse." The judge was so surprised by the novelty of this assertion and the positiveness with which it was uttered, that he declared himself incompetent, and appealed to the opinion of experts. The question was brought before the forum of the medical faculties of the Universities of Leipzig and Berlin, and was studied profoundly by the celebrated physiologist Johannes Müller. The result of his researches was a most valuable acquisition to science, the discovery of the so-called *specific* energies of the nerves of sense, according to which a nerve of special sense, excited in any way whatever, invariably answers by causing the sensation peculiar to it alone. The optic nerve, when pricked, burnt, cut, hit, electrified, etc., will invariably cause a sensation of light, but this light is subjective, due to an abnormal condition of the nerve, and not in the least capable of being perceived by another person, or illuminating the objects around the irritated eye. Any one can repeat on himself the truth of these statements. Therefore the complaint of the priest was dismissed his assertions being in contradiction to the laws of nature.

This celebrated case was the starting point of scientific inquiries into the cause of the darkness of the pupil of the eye, and the peculiar condition under which the pupils of certain animals, and sometimes also of men may become luminous. After a good deal of preparatory labor Prof. Helmholtz solved the problem and invented the ophthalmoscope, or eye-mirror, an instrument by which it is possible to look into the depth of a living eye and see its marvelous interior structure in all its details and brilliancy, as if it were a picture spread out before us. The optic nerve expanding into the retina, with its wonderfully ramifying net of arteries and veins, on which you can see the pulsation of the blood as well as you can feel it on the wrist; the choroid with its shades of pigmentation and intricate interlacing of blood vessels; nay, even the miniature images of outward objects can be seen portrayed on the retina, and their reversal, for centuries a topic of lively discussion, directly observed on the back-ground of the living eye.

Ladies and gentlemen, this was a triumph of science so great and important in its results as the instrument itself is small, and of admi-

erable simplicity. It was at once made practical by the combined efforts of many illustrious physicians who discovered with it a great number of diseases hitherto unknown, and which, as soon as they were recognized, became amenable to treatment. The little instrument proved not only a mirror for the eyes, but revealed many of the other evils which flesh is heir to. It did not only inaugurate a new epoch for the study of the organ of sight, which in the short interval of two decades has become the most cultivated, reliable and beneficial of the various branches of medicine, but led to the study of other organs in the same way. Mirrors for the ear, the throat, and other parts of the body, opened so many fertile fields for the progressive labor of physiologists and physicians. There may be hardly any one among you but has been, or will be, benefited by the practical results of these investigations. Even the French, the proudest of all nations,—the present company as representing the American, of course, excluded—recognized the value of the ophthalmoscope by giving it the highest praise a Frenchman is capable of. A French reviewer naively said: "The ophthalmoscope is such an admirable German invention that it deserves to be a French one."

It takes a certain time to render a great name popular, but the name of Helmholtz as a creator of new science, will live as long as the names of glorious Newton and Humboldt, and as a benefactor of mankind, it will be unsurpassed even by the blessed names of Dr. Jenner and the one over whose ashes this country is still weeping, George Peabody.

But let us continue, that we may see how waves of light are converted into nervous fluid, and ultimately into thought. We followed them to their collection in the image upon the retina. This membrane has a very complicated structure, which again, has been investigated nearly exclusively by German anatomists. Of the many layers which compose the thin transparent retina, one, the outer, is distinguished by a peculiar arrangement and utmost subtlety of its elementary parts. These are called rods and cones, and each of them possesses an inner and outer portion. Three years ago these details were at the limit of the power of the strongest microscopes; but the invention of a new system of lenses, the immersion system, adds so much magnifying power, while preserving good

illumination, to the former microscopes, that it is now possible to distinguish further details in the rods and cones. The surface of the minute staves is covered by infinitely fine nervous fibres, finer than have been observed anywhere else in the animal organization. The outer portion of the little staves consist of extremely delicate discs, cemented together by a glue, the refractive power of which differs from that of the discs. In, around, or between these discs—which, is not yet clearly made out—terminate the delicate nervous fibres which run over the surface of the inner portions of the little staves. Until within the past two years, nobody had definite ideas how the nervd fibres were acted upon by light.

Physiologists contented themselves with the knowledge that the outer layer of the retina contained the percipient elements. Now it is supposed, or rather on the way to be proved, that the waves of light enter the little staves and are repeatedly reflected in the little discs. A remarkable coincidence exists between the size of these discs and the length of the light waves. The latter vary between .00003 to .00008 mm., according to the different colors, and the thickness of the retinal little discs lies between the same limits. You all know that the different colors which compose the sunlight, are due to ether waves of different length, and may be isolated by means of a prism. If now a ray of light, the undulations of which are of a certain length, say .00005 mm. meets on its way a substance composed of different layers, the thickness of which is equal to, or a simple multiple of, the length of the light wave, the latter will not proceed in its course, but be repeatedly reflected from the two surfaces of the layer corresponding in thickness to the length of the light wave. Waves thus repeatedly reflected are called *standing waves*, and possess a much greater force than the simple passing or flowing waves. Standing waves are, therefore, fit to impart far greater commotions to the nerve fibres in or on the disc, than the flowing waves. It is evident that the latter will be converted into standing waves only in discs corresponding to their length. They will only excite the nerve-fibre of these discs, having passed the others without acting upon them. Suppose, for instance, the light wave of blue color, being .00003 mm. in length, enters a little retinal staff, then it will pass undisturbed through the discs of other dimensions than .00003

mm., but after having once penetrated this one, it will be repeatedly reflected. Thus special nervous fibres are excited, and the definition of natural philosophers, that color is nothing but the sensation of ether waves of a specific length is accounted for.

Here the light wave ends; it does not die however, but is transmitted to the ether-zones enveloping the molecules of the optic nerve. Usually this transmission is called absorption of light.

Natural science has of late discovered a law of the greatest fundamental importance, the law of preservation and correlation of forces. This law shows that force can neither be created nor destroyed, it can only be transferred, and manifest itself under other phenomena. Light can be converted into electricity, and the nervous current is very much akin to the electric current. It moves the magnetic needle, and has many properties in common with the electric currents. They are, however, not identical, since the velocity of the nervous current, as Helmholtz was the first to show, is only 61 mt in a second, while that of the electric current is not far from 300,000 miles in the same time.

Thus far we are able to accompany the light wave: it has united with the nervous fluid, and will thereby be transmitted to the central organ of the nervous system, the brain, where it is ultimately converted into thought.

But here, ladies and gentlemen, science in its present state, stands on the confines of an apparently unfathomable mystery, to penetrate which another mirror must be invented. I have, however, faith in the power of science, and am convinced that nothing is impenetrable to the eye of the human mind.

The history of civilization shows a slow work, and frequent disturbances by political convulsions. Europe, especially Germany, where scientific investigation is so generally appreciated and liberally encouraged, may be crushed with the downfall of the untenable forms of personal government; but this country, although still betraying many deficiencies of youth, is the bright star that will usher in an epoch of higher culture.

In regard to the last problem of our subject, the formation of thought out of visual impressions, centuries may pass, before a brain-mirror will be invented. But so sure as science is ever progressive, so sure it is that another Helmholtz will come to invent this mirror, and as the course of civilization and human progress is westward, let us hope that he will be an American.

COMMUNICATIONS.

CLIMATOLOGY AND DISEASES OF THE EASTERN AND CENTRAL PART OF IOWA.

By P. J. FARNSWORTH,

Of Clinton, Iowa.

Local observation and experience are of value in making up a general result; that is, of very great importance to the State and the rest of the world; and it is to be hoped that others may be led to make similar reports, from other points of the State, so that general conclusions may be reached. My point of observation is in the extreme Eastern portion of the State, about midway North and South on the Mississippi river, and along the Chicago and North Western Railroad, running West through the centre of the State, $41^{\circ} 50' N.$, $90^{\circ} 10' W.$

The prevailing winds are north-east and north-west. The north-east wind comes over the great lakes and is saturated with moisture which is precipitated in various parts of the State, when it meets the north-west current. The north-west wind is a cool dry wind, and crosses the north-east current at an obtuse angle, the current crossing the centre of the State nearly in a line drawn from Dubuque $42^{\circ} 80' N.$ to the mouth of the Platte river, $41^{\circ} N.$ latitude; and the west current entering at Sioux city, passing out at Burlington in latitudes corresponding with the above. These are the prevailing winds; occasionally there is an east, or south, or west wind, but only for a little time together; but a direct north wind has never been observed at this point.

This is confirmed by seven years observation, kept for the Smithsonian Institute. The north-west current is invariably a dry wind, and in winter often intensely cold. It comes from the Rocky Mountains over the arid plains that intervene, and absorbs the moisture and malaria, and either destroys it or carries it away to the east. The easterly wind is usually warm and damp, and has all the malaria, or disease bearing germs that is ascribed to the "East-wind" in the old countries. The average temperature for each year, for seven years past, at Clinton, has only a fractional variation from 49° (Fahrenheit). The average amount of rain fall for the corresponding time is 47.22 inches. This varies from year to year, and is much larger than in some other parts of the State.

The prevailing diseases are modified by the prevailing winds of summer and of winter. In summer much east-wind, and consequently much dampness, and rain fall produces an amount of malarial or intermittent disease; while much west-wind in winter produces an increase of lung and rheumatic difficulties.

The distribution of the summer rain fall, has the most marked effect on the health of the State. Large amounts of rain in May and June are usually followed by dry weather in July and August, and a comparative exemption from sickness during the fall months. Heavy rains in July and August are followed by malarial fevers, and diseases partaking of the intermittent character during the fall months, often extending into the winter. Severe intermittent fever, or fever and ague, has seldom or never been observed at Clinton, or its vicinity. It sometimes approaches more nearly in the newer portions of the State along the Chicago and N. W. Railroad.

For the months of June, July, and August, 1865, the prevailing wind was eastward; during the months of August, September, and part of October, there occurred a large number of bilious remittent or typho-malarial fevers; or what Bennett denominates continued fevers. They were ushered in by a chill, and continued sometimes with regular intermissions, sometimes with slight or irregular remissions for a period varying from a few days to six weeks. It seemed to attack children and adults indiscriminately.

August and September of the following year, 1866, were wet months, and were characterized by an outbreak of cholera at Clinton and other places along the river. The germ of this disease was undoubtedly imported, but the soil in which it flourished was just as certainly prepared by the superabundance of moisture of the season; only slight cases of fever occurred during the next three years. The past summer, which has in Clinton and other towns through the centre of the State been very wet, has been characterized by a large number of cases of fevers, termed variously, bilious-remittent, continued or typhoid fevers. These fevers have all a family likeness with those of previous years. Many people come to the office in July complaining of slight chill, and slight febrile action, loss of appetite and languor. A cathartic, an opiate, and an *anti periodic* varied to suit the case, relieved almost all. In August the outside practice has largely

increased, and the cases did not yield to the ordinary remedies, but had long runs from one to eight weeks. The mortality was small, few cases proving fatal. In following a case through there were certain stages that had a certain typhoid appearance; but none that came under my observation began or continued like cases of typhoid fever in the Eastern States. No new cases appeared after the first decided frost of October. There seemed to be less liability of attack to those who had lately come into the State than of old residents.

Disease has exhibited a malarial type through the winter, and now many of the new comers have had slight attacks of ague, yielding readily to remedies.

Epidemics are rare, diphtheria has only occurred sporadically, scarlatina has been very mild within our observation, until the present season, when it has exhibited in a few cases a peculiar malignancy. Such diseases are modified probably by no place or climate. The mortality from all of these diseases is very small. It is unfortunate that we have no system of registration by which the exact percentage could be obtained.

During the summer of 1863, in the vicinity of Clinton, a large number of cases of meningitis occurred among young children. It almost seemed an epidemic. It was sometimes an accompaniment of cholera infantum; sometimes the primary disease. It has not prevailed since. Young children do not seem to be affected by any climatic influences more than elsewhere. The prevalence of bronchial pneumonia, and capillary bronchitis among children, has been noticed several winters, when the dry west wind prevailed, especially in March.

The remarkable number of children in every town, and school district is a noticeable feature in the State, which may be attributed to a favorable climate, or a young and vigorous population. Besides a remarkable fecundity in my range of observation, the preponderance of males born, over the females, have been almost three to one. This is probably nature's protest against women's rights.

The most marked influence of the climate is over pulmonary and tubercular diseases. Phthisis pulmonalis is rarely seen. Many with marked tendency to such diseases are constantly emigrating to the State. The dry, cold currents seem grateful to them, the damp malarial atmosphere is tolerated by the lungs;

and even advanced stages of tubercular disease have been benefited or cured, or the disease determined to some other organ. Pneumonia, bronchitis, and influenza, the exciting cause of much of the fatal pulmonic disease of New England, are rare diseases here. In my practice of seven years, I have met with but four cases of pneumonia, and but three or four cases of bronchial pneumonia or acute bronchitis, and but one case of pleuritis.

In several cases of incipient consumption a residence in the State has produced a decided change, and a marked alleviation, and in no case, unless too far advanced, has it seemed to fail to prolong life. Many persons rejected by life insurance examiners on the score of hereditary phthisis are enjoying excellent health, with no signs of lung difficulty. In several cases of inherited taint, and strong predisposition to consumption, the disease has chosen the liver, or mesentery instead of the lungs. This I have been able to verify in one or two instances, by *post mortem* examination. Malarial attacks seem favorable to the lungs, but determine the disease to the liver.

A friend of mine, in whose family several members have died of phthisis pulmonalis, and whose lungs have begun to ulcerate, recovered and enjoyed good health for five years, and then fell into poor health, and died at the end of seven years, with a complication of diseases of the liver and kidneys, undoubtedly transferred from the lungs. Chronic bronchitis and laryngitis are usually benefited by a residence in the State, and seldom have been known to originate here.

Inflammatory rheumatism is occasionally seen in the fall and winter months, but only a few cases have been noted, and those occurring in persons with strong predisposition toward it.

When the armies of the East were disbanded they were found to have brought home with them a new disease, which they were liberal in disseminating and which was difficult to understand or cure. Physicians East named it "army itch," but western men had no difficulty in recognizing it as the "prairie digs," or "scratches," or "*psora prairiensis*." This seems indigenous in Iowa. At one time I investigated the complaint to a considerable extent. It seemed not to be of parasitic origin, and was aggravated by remedies applicable to scabies. It was conjectured that it was from malarial influence, as it readily yields to

quinia or arsenic, internally, and remedies externally that benefit eczema. We hear no more of it at the East, but it prevails epidemically in many rural neighborhoods and cities of this State at present.

The result of my observation, is that the climate of the state is favorable to longevity, that certain wet summer months, produce a prevailing mild form of malarial disease. Typhus fever has never been known, neither have many cases of pure typhoid, and only seldom a typhoid form of disease seen.

Lung diseases, both acute and chronic are the exceptions and not of common occurrence. Rheumatic complaints are rare. Contagious diseases seldom are of malignant character. Nephritic diseases are not often met with. The clear, stimulating atmosphere that prevails during the greater part of the year, has an undoubted influence in producing the restless energetic character of our people, for which the state is becoming noted, and is favorable to health. The remarkable dryness and purity of the north west wind, makes the most unfavorable locality healthful, and the good health of the State seems to depend in a great measure upon its prevalence. Certain diseases are born, and fostered by the east wind and its attendant dampness. Lung diseases seem benefited by a mixture of both. Asthma is not benefited by a residence in the towns along the Mississippi river, but is sometimes benefited by a residence in the interior. The summers have sometimes seemed to exert an unfavorable influence over the diseases incident to childhood; the winter to bring with it a crop of infantile lung diseases. These results are not uniform, and a larger proportion of infantile mortality, may be ascribed to the larger amount of production above alluded to.

As the country gets older, and a system of careful drainage is instituted, much of the malarial type of disease will disappear, and the fruitful source of much of all the diseases of the country will be taken away. This, with the more comfortable dwelling places that succeed the first habitations, will obviate many of the children's diseases. In other respects, the cultivation of the country will have little to do with a change in the climate, or the diseases of the State, as there are no forests to clear up, as in some regions in other parts of the world, which materially modify atmospheric changes.

ABSCESS OF THE TIBIA.

By W. L. APPLEY, M. D.,

Of Cohecton, N. Y.

Sir B. Brodie after alluding to the organization of bone, and its liability, the same as other tissues, to diseased action, and remarking upon the peculiarity of the symptoms, that lead us to suspect the existence of abscess in the tibia, and what can be done for its relief, says: When the tibia is enlarged from a deposit of bone externally; when there is excessive pain such as may be supposed to depend on extreme tension, the pain being aggravated at intervals, and these symptoms continue and become aggravated, not yielding to medicines or other appropriate treatment, that may be had recourse to—then you may reasonably suspect the existence of abscess in the centre of the bone. You are not to suppose that there is no abscess because the pain is not constant; on the contrary it very often comes on only at intervals. After the disease has existed a certain number of years, the pain never entirely subsides, but still it varies, and there are periods of abatement and exacerbation. The combination of circumstances which I have described, will fully justify you in making an opening into the bone with a trephine.

Peter Bowen, aged 45 years, has suffered at intervals for the last 20 years with pain in the upper portion of the right tibia; he has had a variety of treatment without much if any benefit. The bone was considerably enlarged above the middle, and tender and painful to pressure. The pain for the last three months had been excessive and aggravated at intervals, especially at night—he seldom slept any during the night. I gave him some remedies which I need not enumerate, without any benefit. The pain continued, and I began to suspect that there might be an abscess in the centre of the bone. Under this impression, I proposed cutting down upon the bone, and making an opening into it, so that the matter might escape if there were any there. The operation was performed January 22d, 1870. The patient under the influence of chloroform, I exposed the surface of the bone at the point where there seemed to be the most tenderness and pain on pressure; the external surface was soft and spongy; I commenced a circular opening with a small trephine, and on penetrating the bone a little way, it became so hard I concluded it would be difficult to make an opening to the cavity; I abandoned the

trephine, and used a drill about the size of an ordinary pen holder and made an opening to the centre of the bone, and on penetrating the cavity, pus escaped freely. The wound was left to granulate, and the after treatment was simple as possible.

The wound is now, the 10th of March, nearly healed; the relief is complete; he has not felt the least pain in the tibia since the operation, he sleeps well at nights, which he had not done for months previous to the operation. I am much gratified with the success of this operation, and with a similar one published in the *REPORTER*, vol. 21, No. 17. Both go to show the important views on the nature and treatment of chronic abscess of the tibia; first inculcated, I believe, by Sir Benjamin Brodie.

A CASE OF DELIRIUM TREMENS.

By J. H. MAYNARD, M. D.

Of Unity, Md.

My object in sending you a brief history of this case is not so much to detail its horrid phenomena, as to add my testimony in favor of the antagonistic action of atropia and morphia.

On the night of the 3rd, I was called hastily to C. F., a man whose face at once conveyed to the beholder the saddening intelligence that he was a complete sot. I had been first called to him a few days previously, and had found him in the first stage of delirium tremens. I had commenced the treatment with an active purge, which, in due time, was followed by Dover's powder, bromide potas. morphia, etc., without material benefit. On the night in question, I found all the symptoms greatly aggravated. Having failed with the above, I tried digitalis, which seemed to make no impression, I then, for the first time in this case, gave chloroform which likewise failed to make more than a momentary impression. I then concluded to try morphia again in larger doses than previously; given with the view of controlling if possible, the violent excitement which seemed to be rapidly exhausting his vital power. So I gave him morph. sulph. gr $\frac{1}{2}$, and left to attend to duties elsewhere. When I returned in about an hour after, I found my patient completely narcotized. He was profoundly comatose; stertorous breathing, if two jerking inspirations to the minute could be called breathing; pupils nearly obliterated, pulse but slightly

changed then, but in a few minutes I found was beginning to sink rapidly, showing that the deplorable condition in which I had just found him had just ensued. As soon as I could prepare a solution of atropia, I injected hypodermically f.5ss., containing 1-60 gr., and in half an hour afterward finding the pupils slightly dilated and his respiration having increased to three per minute, I administered in the same way, the other half, and in half an hour after the last, to my surprise and gratification, he suddenly opened his eyes and spoke quite rationally to one of the attendants. Pupils then dilated to their natural size and respiration quite natural. He very soon however began to rave again and violent convulsions coming on, for the relief of which I ineffectually gave chloroform, he sank rapidly and died about the middle of the following afternoon.

My last administration of morphia was probably an error, which was promptly corrected however by the atropia, which in its turn did not I think have any bad effect, as the pupils remained at about their natural size until death.

HOSPITAL REPORTS.

PHILADELPHIA HOSPITAL.

Clinic of F. F. MAURY, M. D.

March 9, 1870.

Phymosis.

(REPORTED BY RALPH. M. TOWNSEND, M. D.)

GENTLEMEN:—I call your attention to the result of an operation performed a week ago for phymosis. The result is most perfect, acceptable, and agreeable. As a result of his long prepuce this man was aided in the contracting of syphilis, and I therefore again impress upon you what I have often told you before: Whenever you find these long foreskins, amputate them.

I now introduce to your notice two cases of

Glandular Syphilis.

variously denominated adenitis, adenopathy, etc.

The study of lymphatic involvement is the contemplation of the milestones along the syphilitic highway.

SIGMUND says the involvement of the glands is pathognomonic of the involvement of the system. RECORD says all syphilis is preceded by glandular involvement, and BUMSTEAD says he knows of no case where this latter has not first occurred. After infection, *ceteris paribus*, we do not have a parallel train

of symptoms between men of different temperaments or different races. The state of the system at the time of receiving the specific impression also has to do with the result. In the African, *adenitis* is unquestionably more common than in any other race. A scrofulous element modifies the syphilitic poison, and the former is largely prevalent among the negroes. This granted, why may not like modifications produce like difference in the result in the white race. That adenitis is in all cases a sure precursor of constitutional implication is a matter admitting of doubt. Not that such glandular involvement does not exist; but there are cases where undoubtedly it cannot be detected. In these men, typical Africans, one is the subject of much greater swelling than the other, because different sets of glands are involved.

The pathology of this condition is briefly this. All over the body we have two sets of lymphatic glands. For instance, in chancere the superficial inguinal glands above Poupart's ligament are the ones most commonly involved; while fissure around the anus involves a deeper set of glands. One of these men has enlargement of the parotid lymphatic glands, and the other of the submaxillary. The last named is bound down by deep fascia which finds its attachment under the jaw. The enlargement of the submaxillary gland is never as great as the parotid, because the last is not so firmly bound down by fascial attachment as the first. After enlarging, these glands undergo three kinds of degeneration. 1st, the amyloid or fatty; 2d, the gummy or tubercular, and 3d, the calcareous. When they undergo the gummy degeneration they are slow to suppurate.

The influence which disease of the glands exerts should be well understood, for oftentimes, independent of syphilis they produce cachexia. How? Because they play an important part in assimilation. Hence were these men white, we would have them of marked pallor.

Treatment.—Syrup of the iodide of iron, corrosive chloride of mercury, iodide of potassium, and chloride of barium are here indicated. This last named remedy, though not much dwelt upon by writers I consider of great efficacy in these affections. Give it in solution 3 to 4 drops after meals. Combine it with 25 drops of the syrup of the iodide of iron, and not ten drops as laid down in the books. Less than this will do no good, and more is rarely indicated.

Give cod-liver oil in tablespoonful doses. The bi-chloride of mercury in quantities the 1-6 of a grain and from 6 to 8 grains of the iodide of potassium. Act upon a man's skin. Keep the mucous membrane free from saburra. Increase the red corpuscles and give beef and milk punch, and all that stimulates and revivifies depressed and sinking nature. The gland on the side of this man's neck, though large and unsightly, I would not extirpate. It is tubercu-

lously enlarged, and surrounded by degenerate matter. To thoroughly do the work, would necessitate the removal of too much tissue. Ofttimes when these glands are circumscribed, it is good treatment to introduce a knife subcutaneously and *hash* them up. We may use here locally.

R. Ung. hydrarg. bin-iodidi, ʒj.
Cerat. simp., ʒvj. M.

This ointment is discutient and resolvent. The ointments of the nitrate of mercury, of the iodide of lead, and of the bin-iodide of mercury, are all good for this purpose. The last named I think the best. Flying blisters, so called from the frequency of their application, are productive of great good. They should be applied immediately over the enlarged gland.

Gonorrhoeal Rheumatism.

This man is a coach painter. On the 4th of January he had clap. He contracted it in Calcutta. Shortly after contracting the disorder he was seized with rheumatic pains, and these still continue. At the present time he has gleet. Now the question arises, what is the connection between the primary affection (clap) and the secondary disorder (rheumatism). Some writers explain it on the ground of a diathesis. They say some men have a diathesis for gonorrhoea, as some children have for scarlet fever. This explanation has no other merit than that of sounding pretty. Men often have intercourse ten times with the same woman, and not until the 11th time do they contract clap. That cannot be explained on the ground of a diathesis. Climate, I think, has in these cases much to do with cause and effect. Take a man with gonorrhoea in the damp, musty atmosphere of London, and he will run greater risk of becoming rheumatic than where the air is drier and purer. I am strongly inclined to think that there is such an affection as gonorrhoeal rheumatism, but what it is or what is its pathology, I am not exactly prepared to say.

Ordinary rheumatism may affect the body generally, but gonorrhoeal rheumatism rarely affects more than one joint. Its preference is for the knee and great toe joints. It succeeds the disappearance of the urethral discharge.

Treatment—Should be both constitutional and local. For the latter, flying blisters, for the former, colchicum, ammoniated tincture of guaiac in doses of twenty drops in mucilage, Fowler's solution, and iodide of potassium. Introduction of an instrument into the urethra shows it to be in a granular condition, especially in the region of the bulb. He has had syphilis, and his affection may, and possibly does, depend upon this last named affection.

Condylomata.

Sometimes called warts and cauliflower excrescence, are exemplified upon the head of the penis of the patient I now introduce. You often see these warts where no syphilitic condition can be

developed. It is a matter of difficulty to distinguish between gonorrhoeal, specific, non-specific, and hereditary warts. If we find them around the verge of the anus in children, they are always syphilitic.

Sir Astley Cooper reports a curious case where a man from Yorkshire had condylomata upon the head of his penis. He had intercourse with his wife, and Sir Astley was afterward called to remove a large warty excrescence from her os uteri. Another afterwards appeared and was removed by the same process, in the region of the umbilicus.

Treatment.—Cut the growth off with the scissors, be careful to trim the parts clean. As these warts are very vascular, and when specific, excessively inoculable, you must have a care both for your patient and for yourself. After trimming them off, touch the raw surface with chromic acid, and for a day or two keep the patient at rest.

Psoriasis.

You see the result of a week's treatment of this case (reported in the last number of the *REPORTER*. R. M. T.) The patient's skin is softer; the scales are dropping, and I fully agree with her that she is much improved. The treatment will be continued.

ST. ELIZABETH HOSPITAL, COVINGTON, KENTUCKY.

Surgical Clinic of Dr. Charles Kearns.

(REPORTED BY J. W. HADLOCK, M. D.)

Barney F., *æt.* 62 years, laborer, came under my care, in this house, Oct. 1, 1890, for which I supposed to be an irritable condition of the prostate gland and neck of the bladder. There was present all the usual symptoms in such case and particularly in patients of his age and habits.

After the ordinary anodyne and diuretic treatment without benefit, my friend, Dr. Jessup, while visiting the Hospital with me, recognized Barney as an old patient, and stated his belief that Barney had stone. Soon afterwards I examined him and was able to corroborate Dr. J.'s statement, being able at once (the bladder being distended) to detect the characteristic clicks, but could form no idea of the number or size of the calculi. After having my diagnosis more fully confirmed by the passage of a small stone, I determined to operate.

The difficulties of the operation will be better understood after a description of my patient, who is about five feet six inches high, of small bone, compactly built, and weighs about 160 pounds.

On the 23d, after chloroform, I made the ordinary incision in the lateral operation; but from the narrowness of the outlet and great amount of fat after the knife had entered the bladder, I could not reach the termination of prostate gland to direct the forceps for the calculi. After several attempts,

however, I succeeded, and took from the bladder ten or twelve small, but distinct stones, and about a deserte spoonful of fine gravel or sand, washed the bladder out thoroughly, and left a gum catheter in the wound to pass off the urine. On the third day, removed the catheter and the urine passed by the urethra. In two days was completely well, the urine passing freely through the urethra without pain.

After two weeks the under portion of left thigh swelled and became painful, the pain frequently extending to knee and back to hip joint. This continued for two months when the swelling subsided, and to some extent the pain. At this date (March 24, 1870,) patient doing well, has no trouble about passing the urine, but complains of pain about the hip when the leg is moved, and is unable to walk.

Mike C., an Irish laborer, æt. 30 years, on the 15th day of April last, 1869, while attempting to place an iron truck upon the track, had his left leg caught under the axle of the car, and both bones comminuted six inches above the ankle, and forcing the comminuted fragments through the skin at four different points. Upon removing the protruding fragments I found such hemorrhage as to require the immediate use of the tourniquet. The flow of blood controlled, he refused to allow me an examination of the wound.

On the morning of the 16th, accompanied by Dr. J. J. Temple, I gave him chloroform, the blood continuing to flow freely on the removal of the pressure from the femoral artery. I again made pressure, and incised the leg for six inches on the inner side, and found the hemorrhage to be from the lacerated posterior tibial artery—both ends of which were ligated, which completely controlled the flow of blood. The leg was then put in a box, the foot being made firm by a roller to a foot-board, and the leg made comfortable and secure, from motion, by pads to the side, and a roller confining it to the box, as high as the upper third of the thigh.

On the 17th, quite comfortable; the wound being left open from the first; had cloths frequently dipped in cold water applied, but to-day ordered a ten grain solution of carbolic acid with glycerine and water applied, suppuration having commenced with an offensive discharge. On the 18th; slept well the previous night; appetite returning, ordered an ounce of castor oil to be given at night; the wound less offensive; the discharge not increased. On 19th; had slept well the previous night; had this morning a discharge from the bowels; complains of a feeling around the wound, similar to that occasioned by flies crawling upon it; solution of carbolic acid continued; wound not offensive; patient cheerful.

On the 2d leg somewhat swollen, and at one point where the bone protruded a slough had occurred, otherwise the leg in good condition, and the patient cheerful and encouraged.

The heel having now become sore, the leg was slightly flexed and a splint applied, corresponding to the flexed condition of the leg, and extending to foot, also corresponding to angle between the foot and the leg. This relieved the heel, and placed the wound in a better condition to discharge. The results were very satisfactory: bones united, leg straight, and at this date, June 1st, patient has returned to work, and, to use his own words, has as "good a leg as ever."

Daniel O'C., æt. 25 years; in a fight was kicked on the right side of the face, fracturing lower jaw, behind mental foramen in an oblique direction—the obliquity extending from within outward, and from before backward, also fracturing the bone upon left side, just in front of the angle with but little displacement. On the right side the posterior fragment was drawn in toward the tongue; the anterior fragment dropping half an inch below. The fracture had been reduced by some physician before the patient was brought to this hospital, and the ordinary roller bandage applied, extending from the chin to the top of the head and held in position by a turn of the roller circling around.

When first seen here by me the tongue and floor of mouth were very much swollen, and the discharge from the lacerated tissues very offensive. Finding myself unable to maintain the parts in apposition upon the right side (the left showing no disposition to displacement), I wired the teeth from each fragment together, and placed a cork between the posterior fragment and teeth of upper jaw, and then applied the four-tailed bandage and drew the chin up until the teeth were on a line horizontally, and kept them in this position for ten days, removing then only the wire, which was producing inflammation of the gums,—continued the cork and pressure seven days longer. When he complained of pain on the left side near the angle of jaw and seat of fracture on that side, I removed the bandage and found an abscess, which continues to discharge, but at this date, April 20th, much less. There is union upon the right side, but some deformity, the posterior fragment overlapping the anterior or inner side, and necessarily shortening the right side of jaw.

The motions of the jaw are good; the teeth are in line, and with the mouth closed the face appears as though a quid of tobacco protruded the cheek of right side.

Rachel G., German woman aged 40 years, April 4th, fell down cellar stairs and had the bones of the right leg broken about three inches above the ankle joint: the foot everted and the symmetry of the leg entirely lost. Reduced the fracture, and applied side splints, confining them with roller bandages, and ordered cold water to be applied. On the morning of the fifth the limb much swollen, bandages tight, much pain. I at once removed the bandages and splints, placed the leg upon a pillow, and

ordered cold water applied. April 15th, no displacement has occurred and the swelling having subsided, the symmetry of the leg is restored. 20th, complains of pain in the ankle joint. No shortening, and the motion in the joint is good, not so good as formerly, but fair. The points of interest in the case are, 1st, the bones being comminuted when reduced, retained their place after 18 hours bandaging, showing by measurement no shortening and fair motion in the joint. 2nd, the tense and swollen condition of the limb served as a splint until union took place, keeping the parts in apposition, and lastly, the fragments were so adjusted that after reduction there was no shortening, muscular contraction being absent throughout. January 4th 1870, patient entirely recovered.

P. S. In the report of the Covington and Newport Medical Society published in the *REPORTER*, the paper on *Digitalis* should have been credited to Dr. J. H. Smith, and the one on *Veratrum* should have been credited to Dr. D. R. Fletcher.

MEDICAL SOCIETIES.

THE IOWA STATE MEDICAL SOCIETY.

The Iowa State Medical Society met in the Hall over the Citizens' Bank at Des Moines, Iowa, as per adjournment. The minutes of the last Annual Meeting were read and approved. The President, Dr. S. B. THRALL, proceeded to deliver his inaugural address, from which we make the following extracts:

Twenty years ago, (in 1850) this society was first organized, and with the exception of two years, has met annually since then, its meetings being held at various times and places, attended by a small number from the vicinity of the place of meeting; it has not been until the past year or so that the means of communication by railroad were such as to encourage a comparatively general attendance, and from a large portion of the western and northern half of the State, we have but few members; the railroad facilities constantly increasing, the location of our meetings at the State Capital, should hereafter give us a much larger attendance.

So far as I am aware there are but very few county or other local medical societies. The importance of medical associations for mutual benefit is evidently not appreciated by a large portion of the physicians of the State, and I would suggest the appointment of a committee instructed to prepare a circular on that subject and send to physicians in every county in the State, setting forth the benefits arising from, and trying not only the formation of county or local societies, but attendance upon and contributions to the State Society. During the past year there has been organized a Medical Department in connection with the State University at Iowa City. Professors have been appointed, most of them residents of this State, and members of our Society. The first regular course of lectures is announced to be given next winter. You are all aware

that there has been for some years a Medical College located at Keokuk; a majority of its teachers are members of this society. I do not desire to say anything here concerning medical education, a topic which has for years been agitated in the American Medical Association, and in various State and other societies; it would be legitimate for this society to take such action as they might deem proper and best adapted to advance the cause of medical education in this State, to harmonize conflicting interests, and if necessary make such recommendations to the Legislature or Trustees as will best conduce to initiate and maintain a high standard of medical education.

The address was received and referred to the committee on publication.

Drs. WHITMAN, CARPENTER, and BEACH were appointed to fill the vacancies upon the Board of Censors, Drs. GAMBLE and WATSON of the same being present.

On motion of Dr. STONE a resolution adopted in 1866, at the annual meeting, remitting the dues of members who were absent in the army to that date, was so amended as to apply to all members in arrears.

It was moved and seconded that the report of the committee on legislative enactments and order of business, including the new Medical Department of the State University, be made the special order of business.

The President's address being called for, Dr. S. B. THRALL delivered an able and interesting address:

ADDRESS OF S. B. THRALL, M. D., PRESIDENT.

After speaking of the early history of the Society, he said:

For a series of years extending back nearly to the date of the admission of the State, investigations have been in progress, and have demonstrated that this is one of the healthiest States; that miasmatic diseases prevail less extensively, and less severely than in many others. During fourteen years practice in the Des Moines Valley I have seen a less number of sinking chills (pernicious intermitents) than I formerly saw every year in the Scioto Valley.

Consumption, the terror of thousands in the older States, finds comparatively few victims here, even with those who have a strong hereditary tendency to this insidious and fatal disease, a timely removal to the dry and bracing air of our high and rolling prairies so modifies the constitutional tendency, as in a majority of instances to prevent the development of the latent disease. Many examples in proof have come under my personal observation.

To try to prevent by legal enactments the incompetent practice of medicine is visionary and chimerical. None appreciate that fact so well as the educated physician. While admitting the impracticable character of such laws as above referred to, I think a legal remedy may be prescribed, that will accomplish much toward the attainment of the object sought; that will not trespass upon our democratic spirit, opposed to restricting any person from pursuing any lawful vocation; that will furnish an interested party to prosecute according to the provisions of the law.

Any person in Iowa may call himself or herself Doctor, administer medicine to the sick, attempt to perform surgical operations, without any knowledge of what they are doing; violates no law, and is simply amenable to prosecution for *civil damages*. The most perfectly educated and qualified physician or surgeon in Iowa is liable to a similar prosecution by law. No distinction is made between him and the common swindler in medicine; is this right? Is it fair play? Should a man entirely ignorant of the construction and operation of the machinery of a railroad engine, or a steamboat boiler, with no knowledge of the power of steam, or the machinery, by which that power is utilized, assume the duties of an engineer, professing to have the requisite knowledge, ability, and experience, and as a result serious injury or loss of life would occur, that man would be deemed a criminal, and nothing, unless it might be a plea of insanity, would save him before any jury. There are now in Iowa hundreds of persons without any preparatory education or knowledge of their business, pursuing an avocation involving the health, happiness, and lives of the people, more destructive, because more wide spread, than could occur in the supposed case of the ignorant engineer; daily their victims are laid in the ground. They call themselves doctors, and escape with impunity. The ignorance of the people on this subject, with the educated and uneducated, makes efficient legislation difficult, if not impossible. Consequently, I would only favor such a law as would give more satisfactory redress to the sufferer who seeks it; as would provide an interested party to enforce the penalties of the law; as would discriminate between the one who has sought to properly qualify, and the *criminally ignorant*.

I think the following meets the above indications. An act entitled an act to protect the health and lives of the community, by punishing the criminally ignorant practitioner of medicine or surgery.

SEC. 1. *Be it enacted by the General Assembly of the State of Iowa*, That hereafter, in cases of suit for mal-practice against any person practicing medicine or surgery in Iowa, if such person has a diploma regularly given to him by any school of medicine either in the United States or some foreign country, duly authorized by law to grant such diploma, or is a member in good standing of the Medical Society of the State of Iowa, or of any State, county, or local Medical Society, recognized by the Medical Society of the State of Iowa, such diploma or membership shall be considered as evidence of a suitable preparatory education, and the suit shall be a civil suit for damages only.

SEC. 2. If, however, the person has not the evidence as specified in Sec. 1 of this Act, the suit may be *criminal* as well as civil, and if found guilty shall be fined or imprisoned at the discretion of the court, provided that the fine shall not be less than one hundred dollars, nor more than five thousand dollars, nor the imprisonment less than six months nor more than five years, and in case of fine, to stand committed until the fine is paid.

SEC. 3. No person practicing medicine or surgery in Iowa without the evidence of suitable preparatory education as specified in Sec. 1 of this Act, shall be entitled to recover in a civil action for services rendered.

The above does not confer any exclusive privileges upon the practitioners of any so called system of medicine, as their own Medical Colleges variously

denominated, authorized by law to grant diplomas to their graduates. It only in a slight degree and very imperfectly, tends to protect the public against the evils incident to criminal ignorance. If the law makes a distinction it will materially aid the people in doing so. It is a practicable step in the right direction.

On motion, the address was referred to the special committee.

In accordance with previous appointment, Dr. Watson, chairman of the Committee on Business, proceeded to read a report upon the new medical department of the State University. Dr. Watson prefaced his report by the statement, that he in reporting, acted as a committee and a member of the profession without any personal feelings or ambitions for or against any one. The following resolutions were offered:

Resolved, That this society cannot in any manner encourage or approve, of the establishment of a medical school liable to the objections enumerated above; and hereby express the opinion, that to do so would be a violation of the distinct declarations of the constitution, and opposed to the express judgment of the profession.

Resolved, That this society regard the course of those members who have been active in the organization of this medical department of the State University, injudicious and injurious to the interests of the medical profession, and the people of the State.

Resolved, That the organization of a medical department of the State University at this time is uncalled for by the medical profession, and is an unnecessary and useless expenditure of the public money.

Resolved, That whenever it shall become clearly necessary to establish a medical department of the State University, it should be located in one of the largest cities of the State, should be amply endowed, and supplied with a full corps of the ablest and most experienced teachers that can be induced to accept its chairs.

Resolved, That to secure the confidence of the body of the profession of the State, and to produce professionally competent graduates, sound and efficient teachers are indispensable, and such teachers would be more likely to be secured by the offer of a remunerative salary, than by an award of the positions to those who would, or could, afford to accept them with the least pay.

Resolved, That the proper course to be pursued in the selection of a faculty for a State Institution, would be to invite all who choose to become candidates to appear before a professional board for examination; such examinations being designed to test actual acquirements and ability to teach, experience, professional and moral character to be considered, and merit alone to secure success.

Dr. WATSON again took the floor, and was permitted to proceed to the review of his report.

Dr. PECK upon taking the floor was, upon motion, allowed unlimited time to reply, and was followed by Dr. Lloyd in the affirmative, and Drs. Middleton and Ely in the negative.

The vote on the resolutions being called for, resulted in their adoption by a small majority.

In accordance with the recommendation of the

President's Inaugural address, a committee was appointed to prepare and issue a circular to be addressed to the members of the medical profession in all parts of the State, setting forth the benefits to be derived from the organization of Medical societies, and requesting such organizations to be made. The committee appointed consists of Drs. Williamson, Baker, and Fields.

On motion, a committee, consisting of Drs. Peck, Ely, and Huff were appointed by the President to draft a suitable bill, asking an annual appropriation for the publication of the proceedings of this Society. Also a bill for the recording of vital statistics, and for compulsory vaccination.

Dr. STONE desired to call attention to the great necessity of a law authorizing dissections, but owing to the lateness of the hour no definite action was taken.

Dr. CARPENTER, from the Committee on Necrology, read a report on the late Drs. R. S. Lewis and J. M. Witherwax, the former late of Dubuque—the latter of Davenport—which was received and referred to the Committee on Publication.

On motion it was resolved that the next meeting of this Society shall be about two weeks prior to the annual meeting of the American Medical Association, for 1871—the day to be fixed by the President.

EDITORIAL DEPARTMENT.

PERISCOPE.

The Theory of Fermentation.

This question has been discussed with great eagerness by physicians of late years, on account of its many physiological relations. The following article from the *Scientific American*, has therefore a general interest:

Liebig has finally broken through the silence with which he has borne the attacks upon his theory of fermentation on the part of many chemists during the last ten years, and has come out with one of those exhaustive and convincing replies that recall the best days of his great intellect.

The reticence he has observed has emboldened some of the younger chemists to disclose weak points in their attacks; while others have looked upon the dead lion as a harmless creature, and have incautiously come too near his claws. All this small game is scattered like chaff before the wind with trifling effort, and the whole power and force of his argument is leveled at the French Academician and renowned champion of the new school, Professor Pasteur, of Paris.

For ten years Pasteur has had it his own way, and the views published by him have been fast gaining in popularity until they appeared destined to be accepted by a majority of scientific men everywhere. Liebig's paper is therefore a perfect bombshell in the camp, and as soon as the smoke has cleared up, and the fragments have been collected, we shall probably have about as nice a fight as has been witnessed among chemists for many a day. In the meantime we propose to give an analysis of what Liebig says in defense of his old theory of fermentation. It is difficult to make an abstract of so

learned a paper, but we shall endeavor to render the subject intelligible to our readers.

Pasteur announced, nine years ago, as the result of his experiments, that Liebig's explanation of the action of yeast on sugar was entirely without scientific foundation.

According to Liebig, "a fermentable body is one which, by itself, or simply dissolved in water, does not undergo any decomposition, but when in contact with a putrescent body is resolved into new products or enters into fermentation. As fermentation is produced by the communication of motion from the atoms—not the molecules—of the putrescent body, to the atoms of the fermentable one, the process requires time; and the same is true of putrefaction itself. And as the ferment can only act so long as its atoms are in motion, so its power of exciting fermentation must cease as soon as its own decomposition is complete, and not before. Hence a given weight of ferment can only cause the fermentation of a limited quantity of sugar, or any other fermentable compound."

On the other hand, the views of Pasteur on fermentation are as follows:

"The chemical process of fermentation is essentially a phenomenon of life; it begins and ends with it; an alcoholic fermentation without simultaneous organization, growth, and development, that is, without continuous life, is impossible."

He regards fermentation as a chemical process accompanied by a physiological one; the duration of life of the ferment limits the splitting up of the atoms of sugar. Liebig says that there is nothing new in this view of the process. It was fully understood and explained by him in his chemical letters twenty years ago, and then, as now, he did not care to adopt it.

The action of ferments on fermentable bodies, says Liebig, is analogous to that of heat on organic substances. Their decomposition at high temperature is always the result of a change in the position of their atoms. Acetic acid is converted by heat into carbonic acid and acetone, just as sugar is split up by yeast into carbonic acid and alcohol; the carbonic acid resulting from the decomposition of the acetic acid contains two-thirds of the oxygen, and the acetone all of the hydrogen, in the same way as the carbonic acid of the fermentation of sugar includes two-thirds of the oxygen, while the alcohol contains all of the hydrogen.

The formation and increase of the yeast-plant is dependent upon the presence and absorption of nutritious matter that develops the living organism; but in the process of fermentation there is an action independent of, and outside of, any products that the living organism can assimilate. The vital operation and the chemical action are evidently two phenomena, that in their interpretation ought to be considered separately.

To the opinion of Pasteur that the decomposition of sugar in the process of fermentation rests upon the formation and growth of the cells of the yeast plant, is opposed the fact that yeast will produce fermentation in a pure solution of sugar; and as yeast consists in the main of a substance rich in nitrogen and sulphur, also containing considerable quantity of salts of phosphates, it is difficult to comprehend how, in the absence of both of these constituents in the sugar, the growth of the plant cells can be promoted; and it would be equally difficult to explain how the beer yeast exerts the same decomposing action upon numerous other bodies as upon sugar.

Liebig has carried on an extensive series of researches in order to determine the action of yeast upon a great variety of substances, and he also cites the labors of the best chemists of Europe to show that his views of the action of yeast and leaven to produce fermentation is founded upon scientific principles, while the explanation of Pasteur is wanting in every element of theory and fact.

It is so popular, not to say fashionable, to refer every vital action back to the formation of cells, and the building up of protoplasm, and to intimately connect life and matter together so as to gradually support the doctrine of spontaneous generation, that the publication of Liebig's great paper must be looked upon as a timely protest against the tendencies of the age. And it may serve as an incitation to younger men of science, anxious for fame, that the old methods of research are sufficient to furnish us with satisfactory explanations of the phenomena of nature without the necessity of having recourse to the supernatural or to the materialistic doctrines of the so-called protoplasmic school.

The first part of Liebig's paper, which is all that has appeared, is devoted to fermentation; the second portion is to be occupied with the question of the origin of muscular force, and will be looked forward to by physiologists with great interest.

Reviews and Book Notices.

NOTES ON BOOKS.

The valuable essay by Dr. Isaac Taylor, on amputation of the cervix-uteri in certain forms of proclivencia, and on complete eversion of the cervix, to which we referred in noticing the Bellevue Hospital Reports, a short time since, has been handsomely reprinted on large paper by the Appletons. Our thanks are due to the author for a copy.

The *College Courant*, New Haven, Conn., has commenced the publication of a series of pamphlets styled the "University series," in duodecimos of 36 and 48 pages. Price 25 cents each. There have been two published. No. 1, Prof. Huxley's Lecture on the Physical Basis of Life; No. 2, Prof. Parker on the Correlation of Vital and Physical Forces.

The *Michigan University Medical Journal*, Vol. I. No. 1, March, 1870, is conducted by the faculty of the medical department of the University. It is a well printed monthly of sixty-four pages, and gives promise of being a welcome addition to our medical literature. The place of publication is Ann Arbor, Mich.

The graduating class of the Jefferson College have published the valedictory address delivered by Prof. J. Aitken Meigs. The speaker exhorted them to cultivate habits of careful reading and observation a custom of writing down, and of publishing to the profession important cases and discoveries, and also not to neglect collateral sciences. Dr. Meigs thinks that the medicine of the future is to be based upon "facts relating to the chemical circulation of matter, the conservation of energy, and the development of organic forms by natural selection." Here he serves us a *plat de son metier* as professor of physiology, and is at odds with the great school of experimentalists, headed by Niemeyer, and formerly by Trouseau, who dared to say "*je tiens à l'honneur d'être empirique.*"

The question of consanguineous marriage seems to have taken a fresh start lately. The President of the Eclectic Medical Society of the State of New York, Dr. Alexander Wildar, delivered his annual address on that topic. He considers consanguineous marriages not forbidden by physiological laws, while those between persons of different races are certainly injurious. If we had a higher respect for the "Eclectic" school, we would attach greater weight to the opinion (published by Trowe & Smith, Book Manufacturing Company, N. Y.)

Dr. W. W. Green, Professor of Surgery in the Medical School of Maine, send us a republication from the *Boston Medical and Surgical Journal* of his essay on the Reduction of Dislocations. The directions he gives are eminently minute and practical. The success of his treatment speaks for itself: "I have never failed," he says, "in a recent dislocation, to relieve the deformity without any aid except from counter-extension."

A republication of a review of one of Dr. Rupaner's cases of laryngo-tracheotomy, published in the *New York Medical Journal*, by Dr. Lewis A. Layre, has been sent us. We sincerely regret that there was any occasion for this letter but justice compels us to say that the case in question was not reported by Dr. Rupaner with that impersonal accuracy, and fidelity to detail, which science demands.

The *aima tomaton* is the learned and awkward name of a new cupping and punctuating apparatus invented by Dr. L. McKay, Rochester, New York, a descriptive pamphlet concerning which has been sent us. It is an enlargement of the idea of the "mechanical leech," figured in works on minor surgery. The inventor claims that the use of the instrument entails no pain, and leaves no scar. Those wishing the pamphlet can address the doctor as above.

Dr. Carl Reclam has written a series of popular lectures on physiology, for the educated classes, published by Mr. Steiger of New York, under the title *Der Leib des Menschen, dessen Bau und Leben*. It is well spoken of.

Dr. Wm. A. Love, of Albany, Georgia, is about to start a Medical Monthly "devoted to the interests of the practitioners of the cotton and sugar zone." It will have from 80 to 120 pages, 8vo., and will be supported by able and well known writers in the South.

BOOK NOTICES.

"How Crops Feed." *A Treatise on the Atmosphere and the soil, as related to the nutrition of agricultural plants, with illustrations.* By Professor SAMUEL W. JOHNSON, M. A., New York, Orange Judd & Co., 1 vol. 12mo. cloth pp. 375.

Prof. Johnson of Yale College is probably the most skillful agricultural chemist in this country, and whatever comes from his pen, may be considered as the latest and most reliable expression of scientific investigation. The present is a plain, practical treatise teeming with facts, and worth study by all intelligent cultivators.

Code of Health of the School of Salernum.

Translated into English verse, with an introduction, notes and appendix. By John Ordronaux, LL. B., M. D. Philadelphia. J. B. Lippincott & Co. 1870. 4to. pp. 167.

An examination of the specimen sheets of this work sent us some weeks ago did not impress us favorably, so far as the editor's and publishers' labor

went. We are glad to say, that a more critical perusal of the whole book leads us to form a much more favorable opinion of both. Some of the translations have been amended, among others, the one we quoted. The proof reading is still not what we could wish. There is a want of uniformity in accenting ablatives and adverbs; diphthongs are sometimes joined and sometimes separated; the punctuation is careless; and we have noted several errors in Latin orthography. These are trifles in an ordinary book, but are not so venial in an *édition de luxe*.

While we are obliged to make these objections to the form of the work, we desire to express our hearty approval of certain portions of it. The introduction is scholarly, and indicates a careful study of sources. The translation in many parts is vigorous, and is generally accurate. That is to say, it is as good as poetical translations often are.

The medical school at Salernum, we may say for those not acquainted with the ancient work, was in existence at least as early as 850, A. D., and probably much earlier. For centuries it enjoyed the reputation of being the centre of medical information in Europe. The tradition runs that when Robert, Duke of Normandy, was returning from the first crusade, he visited Salernum to obtain the advice of its celebrated surgeons. Before he left, they composed for his use a Latin poem, in rude verses, setting forth the laws of health, and the simple remedies for disease. This soon acquired a wide popularity, became the text-book of both the profession and the people, passed through many editions and translations, until modern science threw it back into obscurity.

It was translated once before into English verse, but that translation is now almost unknown. Dr. ORDONAUX therefore has done a praiseworthy task in rendering it again in the vernacular, and accompanying it with the original text. The profession in this country are too apt to neglect the literature of the past, and they should encourage by liberal patronage, an attempt to revive its study.

Selling Diplomas.

The *Morning Post* of this city recently intimated plainly that the sale of diplomas was carried on by some of the irregular schools in this city through the medium of a "collegiate agent" named Hale, whose cards have been scattered freely over the country. Straightway said Hale, and two obscure "doctors" calling themselves Deans of medical colleges, hastened to write to the *Post*, dodging the charge, but boasting loudly of their own unspotted virtue. Hale, in his letter, intimates very strongly that the party engaged in these transactions is the Philadelphia University. Some correspondence in our possession looks strongly in the same direction.

MEDICAL AND SURGICAL REPORTER

PHILADELPHIA, MARCH 26, 1870.

S. W. BUTLER, M. D., D. G. BRINTON, M. D., Editors.

Medical Society and Clinical Reports, Notes and Observations, Foreign and Domestic Correspondence News, etc., etc., of general medical interest, are respectfully solicited.

Articles of special importance, such especially as require original experimental research, analysis, or observation, will be liberally paid for.

To insure publication, articles must be *practical, brief* as possible to do justice to the subject, and *carefully prepared*, so as to require little revision.

We particularly value the practical experience of country practitioners, many of whom possess a fund of information that rightfully belongs to the profession.

The Proprietor and Editors disclaim all responsibility for statements made over the names of correspondents.

1870. SPECIAL NOTICE!! 1870.

By reference to the *Prospectus* in another column, it will be seen that we have made, and are making arrangements for communications from some of the best medical writers, and most prominent medical men in the country. WE ARE EXPENDING MORE ON THE LITERARY DEPARTMENT OF THE REPORTER THAN WAS EVER BEFORE DREAMED OF IN MEDICAL JOURNALISM IN THIS COUNTRY.

As a large proportion of our subscribers are, or very soon will be sending in their subscriptions for 1870, and many of them can, by a LITTLE EXERTION, send the names of NEW SUBSCRIBERS, we offer the following

LIBERAL PREMIUMS!!

which the reader will observe are not composed of old and unsaleable books, but of

NEW AND LIVE BOOKS!
AND SURGICAL INSTRUMENTS!!

1. For 1 new subscriber and \$5, a copy of the *PHYSICIANS' DAILY POCKET RECORD*—or any other publication the retail price of which is \$1.50.

2. For 2 new subscribers and \$10, one year's subscription to the *HALF YEARLY COMPENDIUM OF MEDICAL SCIENCE*, published by us at \$3 a year, or—

3. For 2 new subscribers and \$10, a copy of *NAPHEY'S MODERN THERAPEUTICS*, or any other book selling at retail for \$2.50.

4. For 5 new subscribers and \$25, any Books or Surgical Instruments to the amount of \$6.

5. For 10 new subscribers, and \$50, the same to the amount of \$12.50.

6. For 15 new subscribers, and \$75, an elegant Pocket-case of Instruments worth \$20—or Books or Instruments to that amount.

** If a new subscriber takes two or more of our publications at *commutation rates*, the amount must count \$5 only for the premiums.

PROFESSOR GROSS' PORTRAIT.

We have had some Artists' Proofs issued of Professor GROSS' admirable portrait published in the *REPORTER* for January 8th, for the accommodation of those who desire to frame it. PRICE \$1.00.

THE "MEDICAL EDUCATION" COMEDY.

The announcement is made that a "Convention of Medical Teachers" is to meet in Washington a few days before the annual meeting of the American Medical Association. This is another scene in the farce which is annually acted by the Association. Various professors in different schools unite and agree that medical education in this country must be reformed, and that promptly. They agree that a preliminary examination must be held; that three terms must be required; that a reasonable and uniform charge must be made; and other virtuous resolutions are advocated with great expenditure of breath and ink. The professors then receive from the Association the requisite amount of praise, and quietly go home, and *never make the slightest attempt to carry their proposed reforms into action. Why? Because they are afraid their purse will suffer.* "The clinking of the guinea helps the hurt that honor feels," and each is so much in terror lest an upright, consistent, energetic course in conformity with the resolutions adopted, will alienate some students, that not one adopts it.

Says the *Baltimore Medical Bulletin*, echoing the sentiments of every one who carries his reputation any nearer his heart than his breeches pocket:

"We are heartily tired of these conventions. The farce of legislating in regard to the subject of medical education, and then of practically repudiating all that has been solemnly agreed upon, has been acted too often already. The profession and the public have been humbugged quite long enough by the hypocritical cant in which these assemblies have so lavishly indulged.

"These facts teach important lessons. They show conclusively that the schools are not in earnest on this subject. They prove that medical teachers are not to be trusted as reformers when their interests are at stake. And they demonstrate the fallacy of relying upon this mode of legislation in order to secure that thoroughness of instruction, and that concert of action in this respect, which the best interests of the profession so imperatively demand."

This is one of the duties which the American Medical Association must perform, if it is going to be anything but the organ of some half dozen egotists—if it means to accomplish the work for which it was organized, and maintain a position deserving of respect. Let it form a chapter of Medical Colleges, the graduates of which alone will be entitled to rank as regular physicians, and let it be irre-

vocably fixed that those colleges only can be admitted to the chapter, which really and fully carry out the plan of education proposed; in other words, give their graduates a sound and thorough preparation to practice their profession.

The object could be accomplished in other ways, but this occurs to us as one simple and efficacious. The questions of *color* and *sex* should also arise and be discussed, if not settled, in this connection. The pusillanimous way in which the Association has hitherto dodged these questions which are of such immediate and practical moment, is no credit to it or its leaders. We earnestly urge those who visit Washington in May to see that these questions are brought forward and fairly stated. If there is any use in having the Association at all, it is that it may ventilate those questions which concern the relations of physicians to each other and the public, and settle, as far as may be, questions of such character as they arise.

Notes and Comments.

Wanted.

Braithwaite's Retrospect unbound for 1862—1869, inclusive. Address, giving price, this office.

The Auxiliary Faculty of Medicine of the University of Penna.

The fifth course of lectures will begin on Monday, 28th inst. The introductory lecture will be delivered by Prof. HENRY HARTSHORNE, at the Hall of the University, at 5 o'clock P. M.

Sixth Annual Re-Union of the O. Æ. Society.

Few societies under more auspicious circumstances, or more worthy of congratulation, could have assembled than the brilliant audience that greeted the O. Æ. Society, of Bellevue Hospital Medical College, on the evening of the 23d of last month, on the occasion of its Sixth Anniversary; and the audience was well repaid for coming. Graffula's band, with its soul-stirring strains, speaks for itself. The programme was good, and all of it was carried out amidst shouts of laughter and rounds of applause, with the exception of Prof. Woods' toast to the College, he being unfortunately detained. But Dr. Doremus, always obliging and instructive, entertained the audience in his stead, and exhibited to a Medical class, for the first time in this country, "laughing gas" (protoxide of nitrogen) *solidified*; and by the intense cold thereby produced, freezing eggs, mercury, etc., etc.

The following officers were elected at the last annual meeting:

President—Edward C. Harwood, M. D., re-elected.

Vice President—Thomas H. Bailey.

Secretary—T. Herring Burchard, A. B.

Treasurer—E. C. Bruce.

Library Committee—Profs. Doremus and Flint, Jr., from the Faculty, Drs. Harwood and Leo, and Messrs. Taylor, Burchard, Kinkead and Bates.

The following gentlemen were elected honorary members: S. W. BUTLER, M. D., of Philadelphia, and Prof. HERMAN KNAFF, M. D., of New York.

The Iowa State Medical Society.

It is proper to say that the actions of this Society published in part in the present number of the *REPORTER*, so far as they relate to the Medical Department of the Iowa State University, were endorsed by a small majority only, and are said by several of our correspondents, in whose opinions we have great confidence, not to express the sentiments of a large proportion of the practitioners of the State. A question involving the title to considerable property, is we believe, connected with the dispute between the Keokuk School and the University. While we are anxious to do full justice in the question, it is one of too exclusively local interest to admit extended discussion in our pages. We are always in favor of making medical schools, departments of universities, when that is practicable, and we hope ultimately the medical educational interests of Iowa will centre in Des Moines. But we do not approve of the low rate of fees at present adopted by the University party, nor the extraordinary assertion made in their circular that small hospitals are more instructive than large ones! Moreover, whose fault was it but their own, if, representing the sentiments of the majority, they cared so little for their interests as to allow themselves to be outnumbered at the meeting of the State Society? Let some amicable arrangement be made between these schools, on the basis of a thorough education, and adequate remuneration to instructors.

—Dr. NÉLATON, now Senator NÉLATON, is criticised for his lack of "dignity" in writing a letter to the Paris "Figaro," animadverting on modern surgical practice.

NEWS AND MISCELLANY.

American Medical Association.

In compliance with a resolution of the National Convention for revising the Pharmacopœia, directing that the names of the delegates announced to the President of the Convention as having been appointed to attend the Convention, to meet on the

first Wednesday of May next at Washington, be made public in the newspapers and medical journals in March, the following names of Delegates are now published, with the date at which their appointment was made known to the President; priority being given to the delegates in the order of their announcement:

May 27, 1869.—St. Louis Medical College—A. Litton, M. D.; J. S. B. Alleyne, M. D.

June 6, 1869.—Maryland College of Pharmacy—Wm. G. Thompson, J. Faris Moore, Louis Dohine.

June 6, 1869.—Missouri Medical College—Chas. O. Curtman, M. D.

June 25, 1869.—St. Louis College of Pharmacy—O. F. Potter, M. D.; Hubert Primm, Eugene L. Marsot.

June 25, 1869.—Chicago College of Pharmacy—Albert E. Ebert, Henry Biroth, C. Lewis Diehle. Alternates—James W. Mill, F. Mahle, M. D.; Louis Strehl.

August 9, 1869.—Jefferson Medical College—Jno. B. Biddle, M. D.; B. Howard Rand, M. D.

December 9, 1869.—Medical Society of District of Columbia—Thos. Antisell, M. D.; C. H. Lieberman, M. D.; B. F. Craig, M. D.

January 11, 1870.—Medical College of Virginia—J. S. Wellford, M. D.; R. S. J. Peebles, M. D.

January 20, 1870.—Massachusetts College of Pharmacy—Geo. F. H. Markoe, Thos. Dolliber.

February 1, 1870.—Medical society of the State of New York—Caleb Green, M. D.; Wm. Manlius Smith, M. D.; Edward R. Squibb, M. D.

February 3, 1870.—College of Physicians of Philadelphia—Geo. B. Wood, M. D.; Robert Bridges, M. D.; H. C. Wood, M. D.

February 15, 1870.—College of Pharmacy of city of New York—Wm. Hegeman, Wm. Neigard, P. W. Bedford. Alternates—Theobold Trohmein, Augustus H. Wisman, Geo. C. Close.

February 16, 1870.—National Medical College, (Medical Department of Columbia College Washington)—George W. Dore, M. D.; John C. Riley, M. D.

March 10, 1870.—University of Pennsylvania, (Medical Department)—Jos. E. Carson, M. D.; Robt. E. Rogers, M. D.

March 18, 1870.—Philadelphia College of Pharmacy—Wm. Proctor, Jr., John M. Maisch, Alfred B. Taylor.

The following letter has been received by the President offering the use of the Halls for the meeting and subsequent sittings of the convention.

1407 New York Avenue,

Washington, D. C., Feb. 16, 1870.

PROF. GEO. B. WOOD, M. D.

DEAR DOCTOR—It affords me pleasure to inform you, that at a recent meeting of the Faculty of the National Medical College, (Medical Department of Columbia College Washington) the following resolutions were unanimously adopted:

Resolved, That the Dean be instructed to tender to Prof. Geo. B. Wood, the President of the convention, to revise the Pharmacopœia, held in 1860, the College buildings for the meeting to be held in May 1870, and to make the necessary arrangements therefor.

The building is centrally situated, in the vicinity

of the principal hotels and is well suited for the purpose.

Respectfully your obedient servant,

JOHN C. RILEY,

Dean of Faculty of National College.

Medical College Commencement.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA.

The annual commencement of the University of Pennsylvania (medical department) took place Feb. 11, at noon, at the Academy of Music. The large edifice was crowded, and the choice music from Hassler's Orchestra had the effect of making the occasion one not soon to be forgotten by the participants.

Shortly after twelve the procession entered the Academy, the dean and the professors appearing in their black silk gowns and caps, and took seats upon the stage. The orchestra performed the "University March," which was dedicated by Mr. Hassler to the graduating class. A fervent prayer was then offered by Rev. Dr. Beadle, after which Charles J. Stillé, LL. D., provost, conferred the degree of Doctor of Medicine upon the following graduates:

Armstrong, J. A., Pa.	Kennedy, John M., Tenn.
Ashenfelter, W. J., Pa.	Killebrew, Chas. L., N. C.
Ashton, I. H., Pa.	Kinear, Beverly O., New Brunswick.
Betts, T. S., N. Y.	Kistler, Edwin H. Pa.
Bickel, A. S., Pa.	Lank, John Liston, Pa.
Bilderback, F., N. J.	Leyda, James Harvey, Pa.
Birnie, C., Md.	McAllister, W. F., Kansas.
Boyd, J. O., Pa.	McCabe, Arthur, J., Del.
Boyd, J. C., Pa.	McCoy, Alex. W., Ohio.
Bracking, T. G., Miss.	McGill, John Dale, N. J.
Bray, Daniel, Pa.	McKean, John A., Pa.
Bronolinger, J. C., Pa.	McKinney, R. A., Texas.
Brown, A. C., N. J.	McKinstry, Howard L., Pa.
Brown, J. W., Pa.	Maine, Alvan P., N. Y.
Buckley, C., N. Y.	Marshall, Joseph C., N. J.
Cassaday, C. E., Va.	Meeser, George F., Pa.
Church, R. R., Pa.	Meriwether, Geo. D., Va.
Clancey, D. W., Ohio.	Merklein, Charles H., Pa.
Cook, C. N., Pa.	Michel, Robert B., Ohio.
Cox, W. C., Pa.	Miller, Nathaniel C., Pa.
Crouse, E., Pa.	Miller, Simon, Pa.
Dare, C. H., N. J.	Milligan, James E., Pa.
DeVebery, L. G., N. B.	Morgan, Randall W., N. J.
Dibrell, Jr., J. A., Ark.	Moore, Jacob H. B., Pa.
Ealy, A. E., Pa.	Myers, Samuel N., Pa.
Evans, E. L., Pa.	Nunn, Wm. R., Texas.
Evans, J. S., N. J.	Pettingill, John B., Pa.
Feld, J., Prussia.	Reber, Lyman S., Pa.
Fraser, D. A., Nova Scotia.	Renninger, Ab. C., Pa.
Gallagher, John S., Pa.	Rentz, Ermin B., Pa.
Garloch, F. K., N. Y.	Richardson, A. S., Pa.
Gerhard, Geo. S., Pa.	Risley, Samuel D., Iowa.
Griffith, James F., N. C.	Ristine, Chas. E., Tenn.
Grove, Eugene A., Pa.	Rooke, W. Morris, Pa.
Guidin, Benj. C., Pa.	Schlatier, C. L., Jr., Ga.
Gump, Simon H., Pa.	Shaffner, Chas., Pa.
Hale, Geo., Jr., N. J.	Shoemaker, Benj., Pa.
Hall, John H., Missouri.	Shorter, E. Semmes, Ga.
Hammet, J. D., Missouri.	Simes, J. H. C., Pa.
Hand, Harry C., N. J.	Smith, Jas. Dennis, N. J.
Harris, Chas. M., Pa.	Smith, Jas. Madison, Pa.
Harris, Wm., Maryland.	Somerville, Henry C., Va.
Harshberger, Alex. S., Pa.	Spencer, Ezra R., Jr., O.
Hazlett, Isaac C., Pa.	Stevens, Saml. E., Vt.
Heaton, Townsend, Mich.	Stewart, Reuel, N. J.
Henry, John G., Pa.	Thompson, B. C., Texas.
Henszey, Samuel C., Jr., Delaware.	Turner, Chas. M. (MD), Pa.
Hepburn, Edward A., Pa.	Van Houten, Isaac W., Pa.
Herman, Roswell F., Pa.	Warren, Jos. Texas.
Hess, Geo. A., N. Y.	West, Thos. H., West Va.
Heyl, Albert G., Pa.	Whitbeck, J. F. W., N. Y.
Holt, Wyatt L., Tenn.	Wiley, David, N. J.
Hutt, Wm. H., Pa.	Willard, Lyman M., Pa.
Jameson, Edward W., Pa.	Wilson, Louis D., W. Va.
Johns, Jos. N., Del.	Worrall, Theo. A., Md.
Johnson, Wm. G., N. C.	Young, Alfred A., Miss.

Of the foregoing there were from Arkansas, 1; Delaware, 3; Georgia, 2; Iowa, 1; Kansas, 1; Maryland, 3; Massachusetts, 1; Michigan, 1; Mississippi, 2; Missouri, 2; New Brunswick, 2; New Jersey, 12; New York, 6; North Carolina, 3; Nova Scotia, 1; Ohio, 4; Pennsylvania, 54; Prussia, 1; Tennessee, 3; Texas, 4; Vermont, 1; Virginia, 3; West Virginia, 2. Total medical graduates, 113.

The honorary degree of Doctor of Laws was conferred upon Hon. John Cadwalader, Hon. James R. Ludlow, Hon. Joseph Allison, and Hon. F. Carroll Brewster.

At the public commencement held January 24, 1869, the degree of Doctor of Medicine was conferred upon Oscar S. Roberts, of Massachusetts.

Prof. Joseph Leidy, M. D., delivered the valedictory address, in which he took occasion to clearly set forth the duties of the physician, and laid down the rule that should govern the graduates in pursuing their profession. The address was attentively listened to, and his hearers appeared to fully appreciate the advice so kindly proffered. The exercises were brought to a close by the performance of a choice piece of music.

JEFFERSON MEDICAL COLLEGE.

The annual commencement of the Jefferson Medical College took place on Saturday, the 12th, at the Academy of Music. The house was filled with ladies and gentlemen. The full Germania Orchestra furnished the music. After prayer by the Rev. John Chambers, degrees were conferred upon the following named candidates by the Hon. Edward King, L. L. D.

From Pennsylvania—John V. Albert, W. L. Atlee, Robert H. Barnes, Henry C. Bartleson, S. L. Blackly, John J. Bowen, M. B. Breneman, J. J. Brown, W. S. Bruckart, Wilson Buckby, Thos. H. Butterfield, Chas. Campbell, A. V. Chessrown, John B. Davis, Thomas D. Davis, Moses H. Detwiler, Frank P. Dundore, A. K. Eberly, Isaac L. Edwards, Emory Eshelman, A. N. Fegley, Herman Fritsch, R. J. Fritzinger, Matthew B. Gant, Jacob M. Gemmill, D. M. Graham, Hugh Hanna, D. A. Hengst, R. S. Hittell, Charles I. Hoffman, Ellwood E. Hopkins, Walter Huebener, A. M., W. G. Hunter, H. C. James, George B. Jarrett, Henry D. Keller, Wm. H. King, John A. Kreitzer, Henry G. Landis, Wm. McAlerney, A. W. A. McCandless, Samuel L. McCarthy, George McClellan, M. M. McColly, R. E. McIlwaine, E. P. McLean, J. E. Miller, J. K. Miller, John P. Miller, A. K. Minich, E. N. Mosser, G. W. Moss, F. M. Musser, George W. Neff, Jr., Benj. R. Parke, John P. Patterson, Edward H. Plank, Cyrus S. Poley, Joel G. Ressler, S. R. Rutledge, William F. Schmoele, Franklin Schriver, John G. Scott, Edgar N. Senseny, A. W. Shultz, D. S. Smart, A. M. Smith, R. V. Spackman, J. W. Trabert, Albert Trenchard,

J. T. Ullom, F. H. Van Vulzah, Howard Wells, T. H. White, Addison G. Wick and G. P. Zimmerman.
New Jersey—B. T. Abbott, John H. Griffith, W. H. Izard, M. W. Reeves, Mark L. Smith, John E. Spencer, George R. Robbins, Jr.

Tennessee—Joseph A. Crook, Charles P. Levy
James D. McGaughy, G. T. Russell.

Mississippi—A. C. Halbert, M. D. Jones, John E. Noble, William H. Parrish, D. J. Zuber.

Kentucky—John W. Crenshaw, J. W. Ellis, Jos. H. Hamner, Joseph Hopson, James Powell, J. E. Taylor, T. J. Turpin, Jr., M. D., James K. Walker.

Indiana—Posey Collings, C. S. Frink, M. D., Will. Gosten McFadden, Samuel M. Voorheis, and John D. Van Nuys.

Illinois—Morris Hale, M. D., Henry W. Kendall, M. D., Thomas I. McCarty, J. G. Stokes and J. E. Taxis.

Missouri—John M. Huffman, Robert E. Smith, James Thompson and Lemuel Watson.

Georgia—M. Franklin, Henry G. Henderson, George F. Johnson and John W. Vinson.

Virginia—J. H. Gaines, John R. Mitchell, G. McDonald, M. D.

West Virginia—M. F. Hullihen and John B. Snodgrass.

South Carolina—S. H. Dickson, Jr., W. C. M. Irby.

North Carolina—Arthur F. Belo.

Maryland—Joseph Lort and Samuel Johnston.

Ohio—Z. T. Dellenbaugh, L. L. Leggett and Samuel F. Sharp.

Michigan—B. B. Briggs, James E. Ferguson.

Texas—Thomas M. Attanay, Robert E. Jones.

Kansas—C. B. Kennedy, A. F. Neely.

Alabama—John W. Barclay, Geo. A. Hill, S. W. Taylor.

Canada—Clarence E. Black, William H. Howitt.

Vermont—G. W. Clark, G. J. Donaldson, Elon G. Prime.

New York—E. C. Brayton, E. H. Hickey, George A. Lockwood, Frank H. Smith.

Connecticut—Frank E. Beckwith.

Idaho—J. M. Betts.

Minnesota—Joseph M. Gates.

Delaware—E. W. W. Marsh.

Massachusetts—Hamilton Osgood.

Cuba—Pedro F. Oxamendi.

Arkansas—Samuel H. Parker.

Florida—Joseph Y. Porter.

Mexico—Miguel Trevino.

California—George A. White.

No State given—F. S. Wilson.

The valedictory was delivered by Prof. Jas. Allen Meigs, M. D.

The class, during the session, numbered 435, larger than any other in this country, or perhaps in Europe.

University of Pennsylvania.

AN ALUMNI ASSOCIATION FOR THE MEDICAL DEPARTMENT.

The graduates of the Medical Department of the University of Pennsylvania held a meeting in the Hall of the University, March 11th, for the purpose of forming an Alumni Association.

The meeting was well attended, and was called to order by electing Dr. Joseph Carson as chairman.

On motion of Professor Rogers, Dr. Edward Hartshorne was elected secretary.

The Chairman called upon Dr. Tyson to read the programme or proposed constitution to be submitted.

This was read, as follows :

CONSTITUTION.

The object of this Association shall be to sustain and advance the interests and the influence of the Medical Department of the University of Pennsylvania, as well as to elevate the standard of medical education, and to promote feelings of brotherhood and amity among the graduates.

ARTICLE I.—The name of this Association shall be "The Society of the Alumni of the Medical Department of the University of Pennsylvania."

ART. II.—Sec. 1. The officers of the Society shall be a President, four Vice Presidents, a Corresponding Secretary, a Recording Secretary, a Treasurer, and an Executive Committee.

Sec. 2. The President, or, in his absence, one of the Vice Presidents, in the order of seniority, shall preside at all meetings of the Society, and decide all questions of order.

Sec. 3. It shall be the duty of the Corresponding Secretary to answer all letters addressed to the Society, and open and maintain such correspondence as may tend to advance its interests, and to keep a record thereof, subject to the directions of the Society.

Sec. 6. The Executive Committee shall be composed of twenty members, of whom four shall be graduates of at least ten years' standing, and one from each of the three last graduating classes, whose duty it shall be to execute all measures which may be confided to them by the Society.

Sec. 7. The officers shall be *ex-officio* members of the Executive Committee.

ART. III.—Sec. 1. The first election of officers shall be held immediately after the adoption of this Constitution, and subsequent elections shall be held at the annual meeting, hereafter provided for.

The remainder of the Constitution provides that the members shall be graduates of the Medical Department of the University of Pennsylvania, and that the annual meeting be held on the anniversary day.

After the adoption of the Constitution, the following officers were elected for the ensuing year, and the meeting adjourned :

President.—Professor George B. Wood.

Vice Presidents.—Professor Joseph Carson, Professor Dickson (of Jefferson College) Dr. Edward Hartshorne, and Dr. Casper Morris.

Corresponding Secretary.—Dr. Tyson.

Recording Secretary.—Dr. Oliver.

Treasurer.—Dr. Rogers.

Executive Committee.—Drs. Cooper, Hayes Agnew, Hiram Corson, Edward Gross, Murray Cheston, Charles D. Nancrede, Charles Schaffner, Wm. Pepper, J. H. Packard, William Maybury, Horace Williams, Harrison Allen, H. Lennox Hodge, C. T. Hunter, Lewis D. Harlow, William Hunt.

WOMAN'S MEDICAL COLLEGE.

The eighteenth commencement of this institution was held at the Musical Fund Hall. Carl Sentz's Orchestra performed a number of choice pieces of music. After prayer by Bishop Simpson, the Degree of Doctor of Medicine was conferred by the President, T. Morris Perot, Esq., upon the following named ladies :

Pennsylvania—Hannah T. Croasdale, Anna Lukens and Eliza J. Wood.

New York—Sarah A. Hibbard, Phebe A. Oliver, Jean S. Stevenson and Melissa M. Webster.

Indiana—Sarah C. Hale and Martha E. Hutchings.

Ohio—Julia W. Carpenter and Mary T. Seelye.

Illinois—Jennie G. Brown.

Minnesota—Sibelia T. Baker.

Missouri—Jennie L. Hildebrand.

The valedictory address to the graduates was delivered by Ann Preston, M. D., Professor of Physiology and Hygiene.

The catalogue of students for the session of 1870-'71 embraces the names of fifty ladies.

Sharp Practice.

David Phillips, of Wood county, Ohio, having been acquitted of the murder of Charles Lundy, on a plea of insanity, a year ago, secured his lawyers by giving them a mortgage on his farm. He repudiates the mortgage now, as he was insane when he made it, according to the showing of these same lawyers!

—The rear building of the New York State Inebriate Asylum caught fire March 4th, and was entirely destroyed at Binghampton. The burned part included the dining-room, kitchen and laundry, and fifteen or twenty patients' rooms, gymnasium, etc. The loss is estimated at \$75,000; insured for \$25,000. The main building is still standing, and the patients provided for. The management will continue operations, and in a few days patients were received as usual.

—At the recent annual meeting of the Rutland county, Vermont, Temperance Society, Dr. L. Sheldon, of West Rutland, was chosen President. We are always glad to find the members of our profession taking an interest in the cause of temperance.

—Elizabeth Garrett, the distinguished female physician of London, is at odds with nearly all her sex on the subject of the Contagious Disease Acts, which are now causing so much agitation in England, and which the joint protest of nearly all the distinguished and philanthropic women of England is likely to defeat. Elizabeth Garrett, like most members of the medical profession, argues strongly in favor of the extension of the system of compulsory inspection.

—The Pennsylvania College of Veterinary Surgeons held their annual meeting on Tuesday, March 8th, Dr. McCoart in the Chair. The following officers were elected for the ensuing year. James McCoart, President; J. J. Corbyn, Vice-President, R. Koldewey, Recording Secretary; James Marshall, Corresponding Secretary; R. Jennings, Treasurer.

—All the four physicians implicated in the case of the Welch Fasting Girl have been summoned before a bench of Magistrates. The child's father has already been committed for trial, and the mother is also to be examined.

—The Swedish Government is going to establish a Medical College at Gothenburg, where ladies of the age of seventeen and upward may go through a complete course of study, lasting three years, and including clinical and anatomical lectures. The diploma obtainable in consequence will give them the right to establish themselves as physicians in any part of the kingdom.

—Dr. C. L. Ives and Dr. A. S. Munson have given \$1000 each to the funds of the Yale Medical College.

—Dr. Greenleaf C. Clough, of Greenland, N. H., a few days since, paid the sum of \$1000 for malpractice in setting a leg.

—A colored woman, known as Aunt Jennie, died in Nashville, March 14th, at the advanced age of 110 years.

OBITUARY.

DR. JAMES SWAIM.

The decease of this well-known Philadelphian occurred in Paris on March 13th. He was about sixty years of age, was the son of Dr. William Swaim, and was born in New York city. He was educated at the University of Pennsylvania, and after attending lectures at that institution, continued his medical studies in London and Paris. Dr. James Swaim, we believe never engaged in the active practice of medicine, but, enjoying the advantages of a liberal income, devoted his time to the study of science, extending his researches in every direction. The discoveries of the last forty years, on their first announcement, at once attracted his attention, and his investigations were pursued with zeal and activity, and generally resulted in a valuable addition to the sum of human knowledge. The more prominent of these researches were in reference to the Spectrum Analysis to photography, electro-magnetic telegraphy, semaphoric telegraphy and military signals. On the latter subject he published a volume giving a system and code of military signals which were adopted by several foreign governments. Dr. Swaim was for many years a resident in Paris, at different intervals, and for the last five years had been residing in that

city. On returning to the United States, in 1861, he brought with him two Prussian rifled cannon, and presented them to the city of Philadelphia, for which, on October 18th, of that year, he received the unanimous thanks of Councils, in a formal resolution. He remained in this country until the rebellion had been suppressed, and was actively engaged in the scientific work of the Sanitary Commission. At the close of the war he returned to Paris, as the most suitable place to pursue his investigations. Dr. Swaim was a man of amiable character, modest and retiring disposition, and of extensive acquirements.

He was the owner of the building in which the MEDICAL AND SURGICAL REPORTER has its publication office.

MARRIED.

GRANT—TORREY.—Feb. 7th, at the British Consulate, Cairo, and afterwards at the American Mission Chapel, by the Rev. J. Barnett, D. D., James Andrew Sandilands Grant, A. M., M. D., Chevalier of the Imperial Order of the Medjidieh, Egyptian Government Medical Service, and Resident Physician, Cairo, and Ada Northrop, second daughter of the Hon. John Torrey, Honesdale, Wayne county, Pa., U. S. America.

READ—MINER.—Feb. 22d, by the Rev. B. C. Crichtlow, at the house of the bride's parents in New Brighton, Pa., George Read, M. D., of California, and Miss Henrietta, daughter of John Miner, Esq.

DIED.

BAKER.—On the 16th inst., at Chatham, N. J., Daniel Baker, M. D., formerly of New York.

BEAUMONT.—At New Hope, Pa., on the 14th inst., George H. Beaumont, M. D., in the 52d year of his age.

DOCKHAM.—In Boston, Mass., of disease of the heart, and peritonitis, Feb. 13, Mrs. Roxana Dockham, wife of Dr. H. O. Dockham, of Stafford, Vt., aged 33 years.

FRANKLIN.—In this city, on the 11th inst., Edward, son of Dr. George P. and Annie A. Franklin, in the 3d year of his age.

JEWETT.—At Dayton, Ohio, Thursday morning, March 10th, Sophronia, daughter of Dr. H. Jewett.

KEMP.—March 4th, 1870, at his residence on Walnut Ridge, Washington county, Indiana, of consumption, Ezra L. Kemp, M. D., in the 48th year of his age.

LOOMIS.—At Stamford, Conn., on the 13th inst., Mrs. Esther Lincoln Loomis, wife of Dr. L. C. Loomis.

LOSEY.—At his residence in Honesdale, Pa., on Wednesday, March 9th, 1870, Dr. E. T. Losey, aged seventy-three years.

MASSER.—Dr. George W. Masser, a physician of Scranton, Penna., died recently of apoplexy, aged 51.

SMITH.—In Pittsburgh, March 4th, Mrs. Eliza S., wife of Dr. Samuel Smith in the sixty-seventh year of her age.

WEBSTER.—At his residence in New York, March 14th, George W. Webster, M. D., of pneumonia, in the 46th year of his age.

METEOROLOGY.

MAR.	7.	8.	9.	10.	11.	12.	13.
Wind.....	N. W.	N. W.	N. W.	N. W.	N. W.	N. E.	N. E.
Weather. }	C'dy	Clear	Clear	Clear	Clear	C'dy	C'dy
Depth Rain	2-10						1½
Thermom....							
Minimum...	28°	22°	20°	24°	27°	29°	31°
At 8, A. M.	32	29	28	35	31	32	34
At 12, M.	38	35	34	44	37	38	34
At 3, P. M.	37	34.	36.	45.	36.	31.	35
Mean.....	33.75	35.	29.50	37.	32.75	31.25	33.50
Barometer...							
At 12, M.	29.9	30.01	30.2	30.02	30.02	30.00	29.3
Germantown, Pa.				B. J. LEBDOM.			